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NOV 23 1993

Inventor(s): John C. Harvey  
James W. Cuddihy  
Serial No.: 08/056,501  
Filing Date: May 3, 1993

Group Art Unit: 2202  
Examiner: D. Cain

Hon. Commissioner of Patents and Trademarks

SIR:

Please place the Patent Office receipt stamp hereon to acknowledge receipt of the following:

1. Supplemental Information Disclosure Statement
2. Check - \$200
3. PTO-1449
4. Photocopies of: 159 U.S. patent references; 2 U.K. patent references; 1 German patent reference; and 3 articles

Docket No. 5634/7

Respectfully,  
Thomas J. Scott, Jr. (Reg. No. 27,836)



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Inventor(s): John C. Harvey, James W. Cuddihy

Serial No.: 08/056,501

Filing Date: 3 May 93

For: Signal Processing Apparatus and Methods

Group Art Unit: 2202

Examiner: D. Cain

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**NOV 2 3 1993**

Commissioner of Patents and Trademarks  
Washington D.C. 20231

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

S I R:

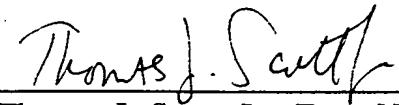
In accordance with the duty of disclosure under 37 C.F.R. § 1.56(a) and in conformance with the procedures of 37 C.F.R. §§ 1.97-98 and M.P.E.P. § 609, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached Form PTO-1449. Copies of the listed references are provided herewith.

It is respectfully requested that the information above be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

**CERTIFICATION AND/OR FEE**

This IDS is being filed pursuant to 37 C.F.R. § 1.97(c) before the earlier of the mailing date of a final action or a notice of allowance. A check in the amount of **\$200.00** is enclosed to cover the small entity fee for the IDS submission under 37 C.F.R. § 1.97(c). Please charge any additional fees required in connection with this communication to the deposit account of **Howrey & Simon**, deposit account number **08-3038**. A duplicate copy of this sheet is enclosed.

Respectfully submitted,



Thomas J. Scott, Jr. (Reg. No. 27,836)

Dated: November 4, 1993

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	Applicant(s) John C. Harvey, James W. Cuddihy	
	Filing Date 3 May 93	Group 2202

**U. S. Patent Documents**

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	2,573,349	Oct. 30, 1951	Miller et al.	177/353	
	2,769,023	Oct. 30, 1956	Loew et al.	178/5.1	
	2,788,387	Apr. 9, 1957	Druz	178/5.1	
	2,864,865	Dec. 16, 1958	Morris	178/5.1	
	2,866,962	Dec. 30, 1958	Ellet	340/147	
	3,016,091	Jan. 9, 1962	Daniele	162/391	
	3,071,642	Jan. 1, 1963	Mountjoy et al.	178/5.1	
	3,213,201	Oct. 19, 1965	Flood et al.	179/15	
	3,238,297	Mar. 1, 1966	Pawley et al.	178/22	
	3,531,586	Sept. 29, 1970	Bass et al.	178/6	
	3,536,833	Oct. 27, 1970	Guanella	178/22	
	3,573,747	Apr. 6, 1971	Adams et al.	340/172.5	
	3,609,697	Sept. 28, 1971	Blevins et al.	340/172.5	
	3,657,699	Apr. 18, 1972	Rocher et al.	340/146.1	
	3,659,046	Apr. 25, 1972	Angeleri et al.	178/22	
	3,668,307	June 6, 1972	Face et al.	178/5.6	
	3,693,090	Sept. 19, 1972	Gabriel	325/308	
	3,729,581	Apr. 24, 1973	Anderson	178/6.8	
	3,731,197	May 1, 1973	Clark	325/32	
	3,733,430	May 15, 1973	Thompson et al.	178/5.1	
	3,736,369	May 29, 1973	Vogelman et al.	178/5.1	

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Attorney Docket No.  
5634/7

Serial No.  
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Applicant(s)  
John C. Harvey, James W. Cuddihy

Filing Date  
3 May 93

Group  
2202

**U. S. Patent Documents**

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	3,749,845	July 31, 1973	Fraser	179/15	
	3,773,977	Nov. 20, 1973	Guanella	179/1.5	
	3,777,053	Dec. 4, 1973	Wittig et al.	178/5.1	
	3,789,137	Jan. 29, 1974	Newell	178/6.6	
	3,798,359	Mar. 19, 1974	Feistel	178/22	
	3,803,491	Apr. 9, 1974	Osborn	325/53	
	3,819,852	June 25, 1974	Wolf	178/5.6	
	3,824,332	July 16, 1974	Horowitz	178/5.1	
	3,824,467	July 16, 1974	French	325/32	
	3,825,893	July 23, 1974	Bossen et al.	340/146.1	
	3,833,757	Sept. 3, 1974	Kirk, Jr. et al.	178/5.6	
	3,882,392	May 6, 1975	Harney	325/53	
	3,885,089	May 20, 1975	Callais et al.	178/5.1	
	3,886,302	May 27, 1975	Kosco	178/5.1	
	3,890,461	June 17, 1975	Vogelman et al.	178/5.1	
	3,893,031	July 1, 1975	Majeau et al.	325/32	
	3,894,176	July 8, 1975	Mellon	178/5.1	
	3,899,633	Aug. 12, 1975	Sorenson et al.	178/5.1	
	3,911,216	Oct. 7, 1975	Bartek et al.	178/22	
	3,914,534	Oct. 21, 1975	Forbes	178/5.1	
	3,916,091	Oct. 28, 1975	Kirk, Jr. et al.	178/5.1	

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	Filing Date 3 May 93	Group 2202

**U. S. Patent Documents**

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	3,919,462	Nov. 11, 1975	Hartung et al.	178/5.1	
	3,921,151	Nov. 18, 1975	Guanella	340/172.5	
	3,934,079	Jan. 20, 1976	Barnhart	178/5.1	
	3,936,593	Feb. 3, 1976	Aaronson et al.	178/5.1	
	3,936,594	Feb. 3, 1976	Schubin et al.	178/5.1	
	3,956,615	May 11, 1976	Anderson et al.	235/61.7B	
	3,970,790	July 20, 1976	Guanella	179/1.5S	
	3,997,718	Dec. 14, 1976	Ricketts et al.	178/6.8	
	4,024,574	May 17, 1977	Nieson	358/117	
	4,025,947	May 24, 1977	Michael	358/86	
	4,025,948	May 24, 1977	Loshin	358/122	
	4,031,548	June 21, 1977	Kato et al.	358/188	
	4,048,619	Sept. 13, 1977	Forman, Jr. et al.	340/154	
	4,049,906	Sept. 20, 1977	Hafner et al.	178/2C	
	4,058,830	Nov. 15, 1977	Gulnet et al.	358/86	
	4,068,264	Jan. 10, 1978	Pires	358/122	
	4,081,612	Mar. 28, 1978	Hafner	179/15BA	
	4,081,753	Mar. 28, 1978	Miller	325/396	
	4,081,831	Mar. 28, 1978	Tang et al.	358/114	
	4,091,417	May 23, 1978	Nieson	358/117	
	4,104,486	Aug. 1, 1978	Martin et al.	179/2	

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Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	4,112,464	Sept. 5, 1978	Gulf et al.	358/122	
	4,115,662	Sept. 19, 1978	Gulnet et al.	179/15BV	
	4,115,807	Sept. 19, 1978	Pires	358/122	
	4,120,030	Oct. 10, 1978	Johnstine	364/200	
	4,130,833	Dec. 19, 1978	Choenet	358/122	
	4,160,120	July 3, 1979	Barnes et al.	178/22	
	4,161,751	July 17, 1979	Ost	358/114	
	4,163,254	July 31, 1979	Block et al.	358/122	
	4,163,255	July 31, 1979	Pires	358/122	
	4,168,396	Sep. 18, 1979	Best	178/22	
	4,170,782	Oct. 9, 1979	Miller	358/84	
	4,172,213	Oct. 23, 1979	Barnes et al.	178/22	
	4,186,413	Jan. 29, 1980	Mortimer	358/146	
	4,196,310	Apr. 1, 1980	Forman et al.	178/22	
	4,200,770	Apr. 29, 1980	Hellman et al.	178/22	
	4,200,913	Apr. 29, 1980	Kuhar et al.	364/900	
	4,215,366	July 29, 1980	Davidson	358/124	
	4,215,370	July 29, 1980	Kirk, Jr.	358/146	
	4,225,884	Sep. 30, 1980	Block et al.	358/122	
	4,232,193	Nov. 4, 1980	Gerard	179/1.5R	
	4,236,217	Nov. 25, 1980	Kennedy	364/483	

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Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	4,247,106	Jan. 27, 1981	Jeffers et al.	273/85G	
	4,250,524	Feb. 10, 1981	Tomizawa	358/122	
	4,253,114	Feb. 24, 1981	Tang et al.	358/114	
	4,253,157	Feb. 24, 1981	Kirschner et al.	364/900	
	4,262,329	Apr. 14, 1981	Bright et al.	364/200	
	4,266,243	May 5, 1981	Shutterly	358/121	
	4,275,411	June 23, 1981	Lippel	358/13	
	4,283,602	Aug. 11, 1981	Adams et al.	179/1.5R	
	4,284,976	Aug. 18, 1981	Gable et al.	340/147	
	4,287,592	Sep. 1, 1981	Paulish et al.	370/88	
	4,288,809	Sep. 8, 1981	Yabe	358/12	
	4,292,650	Sep. 29, 1981	Henderickson	358/173	
	4,295,223	Oct. 13, 1981	Shutterly	455/72	
	4,302,771	Nov. 24, 1981	Gargini	358/86	July 23, 1980
	4,304,990	Dec. 8, 1981	Atalla	235/380	Feb. 4, 1980
	4,305,101	Dec. 8, 1981	Yarbrough et al.	360/69	Apr. 16, 1979
	4,305,131	Dec. 8, 1981	Best	364/521	Mar. 31, 1980
	4,306,289	Dec. 15, 1981	Lumley	364/200	Feb. 4, 1980
	4,306,305	Dec. 15, 1981	Doi et al.	371/38	Oct. 19, 1979
	4,307,446	Dec. 22, 1981	Barton et al.	364/200	May 2, 1979
	4,312,016	Jan. 19, 1982	Glaab et al.	358/188	Feb. 2, 1979

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**U. S. Patent Documents**

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	4,313,132	Jan. 26, 1982	Doles et al.	358/114	Oct. 31, 1979
	4,314,367	Feb. 2, 1982	Bakka et al.	370/60	Jan. 17, 1980
	4,316,055	Feb. 16, 1982	Feistel	178/22.06	Dec. 30, 1976
	4,316,245	Feb. 16, 1982	Luu et al.	364/200	Dec. 7, 1978
	4,318,125	Mar. 2, 1982	Shutterly	358/121	Apr. 25, 1979
	4,319,079	Mar. 9, 1982	Best	178/22.09	Jan. 17, 1980
	4,322,745	Mar. 30, 1982	Saeki et al.	358/123	Mar. 21, 1980
	4,323,921	Apr. 6, 1982	Guillou	358/114	Jan. 23, 1980
	4,323,922	Apr. 6, 1982	den Toonder et al	358/117	Dec. 17, 1979
	4,325,078	Apr. 13, 1982	Seatom et al.	358/117	Nov. 20, 1979
	4,329,684	May 11, 1982	Monteath et al.	340/707	Jan. 15, 1980
	4,331,973	May 25, 1982	Eskin et al.	358/84	Oct. 20, 1980
	4,331,974	May 25, 1982	Cogswell et al.	358/86	Oct. 21, 1980
	4,332,980	June 1, 1982	Reynolds et al.	179/2A	May 30, 1980
	4,336,553	June 22, 1982	den Toonder et al	358/120	May 14, 1980
	4,336,559	June 22, 1982	Koyama et al.	360/73	Nov. 9, 1978
	4,337,483	June 29, 1982	Guillou	358/114	Jan. 31, 1980
	4,338,628	July 6, 1982	Payne et al.	358/120	Dec. 19, 1979
	4,339,798	July 13, 1982	Hedges et al.	364/412	Dec. 17, 1979
	4,340,903	July 20, 1982	Tamura	358/10	Aug. 6, 1980
	4,347,498	Aug. 31, 1982	Lee et al.	340/825.02	Nov. 21, 1979

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### U. S. Patent Documents

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	4,347,532	Aug. 31, 1982	Korver	358/183	Oct. 14, 1980
	4,353,088	Oct. 5, 1982	den Toonder et al	358/120	May 14, 1980
	4,354,201	Oct. 12, 1982	Sechet et al.	358.122	June 11, 1980
	4,361,877	Nov. 30, 1982	Dyer et al.	364/900	Feb. 5, 1980
	4,364,081	Dec. 14, 1982	Hashimoto et al.	358/13	Apr. 16, 1981
	4,365,110	Dec. 21, 1982	Lee et al.	178/22.10	June 5, 1979
	4,375,579	Mar. 1, 1983	Davida et al.	178/22.10	Jan. 30, 1980
	4,375,651	Mar. 1, 1983	Templin et al.	358/191.1	July 27, 1981
	4,379,205	Apr. 5, 1983	Wyner	178/22.10	June 22, 1979
	4,381,522	Apr. 26, 1983	Lambert	358/86	Dec. 1, 1980
	4,388,643	June 14, 1983	Aminetzah	358/123	Apr. 6, 1981
	4,389,671	June 21, 1983	Posner et al.	358/124	Sep. 29, 1980
	4,390,898	June 28, 1983	Bond et al.	358/119	Mar. 23, 1981
	4,390,901	June 28, 1983	Keiser	358/147	Oct. 16, 1980
	4,394,691	July 19, 1983	Amano et al.	358/194.1	July 30, 1981
	4,394,762	July 19, 1983	Nabeshima	371/38	Jan. 6, 1981
	4,395,757	July 26, 1983	Bienvenu et al.	364/200	Apr. 14, 1981
	4,398,216	Aug. 9, 1983	Field et al.	358/121	Sep. 19, 1980
	4,400,587	Aug. 23, 1983	Taylor et al.	179/27D	Aug. 25, 1981**
	4,405,942	Sep. 20, 1983	Block et al.	358/119	Mar. 3, 1982**
	4,410,917	Oct. 18, 1983	Newdoll et al.	360/15	Sep. 14, 1981

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### U. S. Patent Documents

Examiner Initial	Patent Number	Patent Date	Name	Class / Subclass	Filing Date
	4,413,339	Nov. 1, 1983	Riggle et al.	371/38	June 24, 1981
	4,424,532	Jan. 3, 1984	den Toonder et al	358/120	May 9, 1983**
	4,433,207	Feb. 21, 1984	Best	178/22.09	Sep. 10, 1981
	4,434,323	Feb. 28, 1984	Levine et al.	178/22.17	June 29, 1981
	4,434,436	Feb. 28, 1984	Kleykamp et al.	358/118	July 13, 1981
	4,434,464	Feb. 28, 1984	Suzuki et al.	364/200	Mar. 31, 1981
	4,446,519	May 1, 1984	Thomas	364/200	May 26, 1981
	4,467,139	Aug. 21, 1984	Mollier	178/22.08	Mar. 12, 1981
	4,467,356	Aug. 21, 1984	McCoy	358/146	Sep. 24, 1981
	4,471,163	Sep. 11, 1984	Donald et al.	178/22.08	Oct. 5, 1981
	4,471,164	Sep. 11, 1984	Henry	178/22.11	Oct. 13, 1981
	4,475,123	Oct. 2, 1984	Dumbauld et al.	358/114	Apr. 2, 1981
	4,488,179	Dec. 11, 1984	Krüger et al.	358/181	Sep. 23, 1981
	4,513,174	Apr. 23, 1985	Herman	178/22.08	Mar. 19, 1981
	4,528,588	July 9, 1985	Löfberg	358/122	Sep. 25, 1981
	4,528,589	July 9, 1985	Block et al.	358/122	Feb. 1, 1984**
	4,536,791	Aug. 20, 1985	Campbell et al.	358/122	Mar. 31, 1981
	4,593,353	June 3, 1986	Pickholtz	364/200	Oct. 26, 1981
	4,598,288	July 1, 1986	Yarbrough et al.	340/825.34	Dec. 20, 1983**
	4,689,661	Aug. 25, 1987	Barbieri et al.	358/12	June 22, 1981
	4,908,713	Mar. 13, 1990	Levine	358/335	June 29, 1988**

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#### U. S. Patent Documents

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	4,963,994	Oct. 16, 1990	Levine	358/335	Feb. 23, 1990**

\* - If pertinent

\*\* - Claims priority from parent application filed prior to Nov. 3, 1981.

#### Foreign Patent Documents

Examiner Initial	Document Number	Publication Date	Country	Class / Subclass	Translation	
					Yes	No
	1 554 411	Oct. 17, 1979	Great Britain	H04b 3/54		x
	2 034 995	June 11, 1980	Great Britain	H03J 7/18 5/00		x
	29 18 846	Nov. 13, 1980	Germany	F26B 12/02	x	

#### Other Documents

Examiner Initial	Author, Title, Date, Pertinent Pages, Etc.
	James, A., "ORACLE - Broadcasting the Written Word," <u>Wireless World</u> , July 1975.
	Carne, E. Bryan, "The wired household," <u>IEEE Spectrum</u> , October 1979, p. 61-66.
	Edwardson, S.M., "CEEFAX: A Proposed New Broadcasting Service," <u>Journal of the SMPTE</u> , January 1974, p. 14-19.

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